

CHEATING BEHAVIOR: TECHNIQUES OF
NEUTRALIZATION VS. MISATTRIBUTION OF AROUSAL

By

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1987

ACKNOWLEDGMENTS

I would like to thank my chair, Dr. Bill Froming, for his valuable assistance in preparing this dissertation. Special thanks goes to Dr. Greg Neimeyer for sitting in during Dr. Froming's sabbatical. I would also like to thank the other members of my committee: Dr. Bob Ziller, Dr. Scott Miller, and Dr. Chuck Frazier. My parents also richly deserve a "thank you" for their patience and support. Finally, I would like to thank everyone who was a friend to me during my years at the University of Florida.

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December, 1987

Chairman: William J. Froming
Major Department: Psychology

Two hundred introductory psychology students participated in a study designed to test a possible alternative explanation for earlier findings relating misattribution of arousal to cheating behavior. Those earlier studies had found that students who ingested a capsule that they expected to create side effects related to sympathetic arousal cheated more than subjects who ingested a capsule which they expected to create either relaxation-related side effects or no side effects at all. The alternative explanation suggested that the differences in cheating rates among the three capsule conditions were due to differences in levels of subjects' resentment toward the capsule and the person responsible for making them ingest it. It was hypothesized that the same capsule side effects that related to sympathetic arousal symptoms were also the ones that would create the

most resentment. This alternative hypothesis regarding the capsule side effects was tested both by measurement of self-reported resentment and by varying the victim of the cheating between being the experimenter who was responsible for making the subject ingest the capsule and an experimenter who was perceived as unrelated to the capsule. Also tested was the relative importance (to the labeling of sympathetic arousal) of the techniques of neutralization known as "denial of victim" and "denial of responsibility."

The results showed that the side effects manipulation was effective in producing differences in reported side effects. However, the previously cited relationship between misattribution of arousal and cheating rates was not replicated. The no-effects group reported less capsule-related resentment than either the tension-related effects group or the relaxation-related group. However, there was no significant difference in cheating rates among these groups. T-tests showed resentment toward the vocabulary test to be the most significant factor in distinguishing between cheaters and noncheaters. The measures designed to assess a subject's tendency to use the techniques of neutralization known as "denial of victim" and "denial of responsibility" were only mildly successful in predicting subjects' classification as a cheater or a noncheater.

CHAPTER I INTRODUCTION

As Blasi (1980) states, the study of morality ultimately lies in the observation of moral action. However, he also points out quite correctly that moral action is "imbedded in a variety of feelings, questions, doubts, judgements, and decisions." In accordance with this latter statement, it is clear that efforts to assess emotion-cognition-behavior relationships in moral decision making are needed. This proposal describes one such effort.

The Morality Literature

The research on moral action and its determinants has its foundation in the classic studies conducted by Hartshorne and May (1928), Hartshorne et al. (1929), and Hartshorne et al. (1930). The basic problem identified in these early landmark studies was a lack of relationship between the values of schoolchildren and their behavior. Blasi suggests this problem is due to the fact that, after the age of seven or eight, there is little variation among individuals in their knowledge of the accepted norms of society. It is only their behavior that shows any significant degree of individual differences. Of course, this is just a specific example of the more general question of attitude-behavior consistency which has been investigated since the days of

LaPiere (1934), who concluded that there is very little consistency between a person's attitude and his or her actual behavior. The early work of Hartshorne and May, LaPiere and others, illuminated the need for research which focused on how variations in the situation produce variations in behavior, especially in situations where one faced a moral dilemma (Morash, 1983).

During the ensuing years, much research focused on developing structural models to explain how stages of moral reasoning could be used as a guideline to predict moral behavior. The most important work in this area was by Piaget (1932) and Kohlberg (1958, 1971, 1976). Often labeled the cognitive-developmental approach, the stage approach to moral reasoning appears quite proficient at identifying the criteria one uses to determine a course of action in a moral situation, but its validity falls short when assessed in terms of actual behavior (Kurtines and Grief, 1974). However, perhaps this shortcoming simply points out that the relation between thinking and action in moral situations is too complex to expect knowledge of such criteria to lead to accurate prediction of behavior (Peters, 1974).

Not all researchers have taken such a pessimistic viewpoint. The literature contains an abundance of research examining the relationship of moral reasoning to behavioral measures such as delinquency, honesty, and altruism, to name a few (Blasi, 1980). The studies are often fraught with methodological problems such as inadequate sampling and

inadequate measures of moral action, but notwithstanding these problems, there appears to be strong evidence to suggest that delinquents differ from nondelinquents in their moral reasoning, that the higher stages of moral reasoning produce more resistance to conforming one's judgment to the view of others, and that the higher stage individuals exhibit more honesty and more altruism. Despite the apparent positivity of these findings, it is Blasi's conclusion that the literature has shown little evidence that higher stage individuals can better resist social pressures to conform in actual behavior.

Social psychologists have tried to improve on the stage theorists' ability to predict moral behavior by identifying criteria in addition to developmental stages that are important in the process of moral evaluation. Much of this work has its roots in the ideas of Heider (1958). Heider's discussion of "ought" asserted that values, just as perceived objects, are considered to belong to an objective reality that is the same for everybody. This was an important assertion, because it led to the conception of moral reality as having the same qualities as external objective facts. Attribution theory (Kelley, 1967) became applicable to moral evaluation, and moral judgments were determined to involve the same processes of consistency and consensus as other judgments. It was suggested that an important focus of morality researchers should be the comparison of moral evaluations with other types of evaluation (Kelley, 1971).

This type of approach has been seen in the responsibility attribution work which has evolved from Heider's original model of responsibility attribution. That model focused on how different levels of responsibility are attributed to an actor based on the interplay of two important variables: intention and environmental pressure. It should be noted that Heider's model has been criticized for its omissions and ambiguities, with the most glaring problem being its failure to incorporate the influence of social roles on attribution of responsibility (Hamilton, 1978).

Other social psychological approaches to morality have focused on the influence of direct situational determinants. An example of this is the finding that moral inhibitions against aggression can be weakened significantly by lessening the personal responsibility subjects must assume for their actions or by dehumanizing the victim that subjects are aggressing against (Bandura, Underwood, and Fromson, 1975).

Blasi concludes his review of the literature with several important observations. He notes a need for a different focus in the research on moral cognition and moral action. He suggests future research investigate such things as individual differences in readiness to use moral schemas in interpreting situations, the motivational forces that lead from judgment to action, the defensive mechanisms that operate in moral decision-making, and the strategies used to maintain cognitive consistency between judgment and action.

Blasi believes constructs related to the self such as self-definition, self-organization, self-awareness, and self-consistency will play an integral role in expanding the horizons of the research on moral reasoning and moral action.

Accounting and Neutralization

Backman (1985) boarded Blasi's train of thought and produced a thoughtful discussion relating the self to the resolution of moral dilemmas. A moral dilemma, according to Backman, concerns the "mindful, and in varying degrees, painful resolution of a conflict between alternative responses which minimizes adverse consequences." Moral dilemmas involve behavior relative to established social norms and values, and a resolution which leads to conflicts with these norms may force changes in one's self-evaluation. Backman describes the moral dilemma as a two-horned beast with one horn representing the threat of negative traits being ascribed to the norm violator and the other horn representing the fact that the norm violation may be related to some other, more positive, outcome.

An example is found in the case of a student who is in need of a personal computer, and is tempted by an opportunity to steal one from the university he attends. The consideration of violating established norms against stealing will likely lead to expectations of guilt and/or possible shame and humiliation from others should the violation become public. Meanwhile, "horn number two" offers the compelling financial and functional advantages associated with stealing the computer monitor. One solution would be for

the student to define the situation so he can steal the monitor and still be viewed by himself (and possibly others) in a somewhat favorable light. Such a redefinition of the situation to explain one's behavior might involve reasoning that the university has insurance to cover the loss, or the university "owes it to him" for recent tuition increases.

Such redefinitions of situation to explain one's behavior are called accounts, and fall into three categories: excuses, justifications, and conventionalizations (Backman, 1976). An excuse involves defining one's behavior in a moral situation in a manner which absolves one from responsibility for it. Justifications involve defining the behavior as one which caused either no harm, trivial harm, or justified harm (the reasoning in the computer example would be labeled a justification). The third category of accounts, conventionalizations, involves distorting the actual behavior into some lesser violation of norms, such as "I didn't steal the monitor, I only borrowed it."

A process similar to accounting is discussed extensively in the sociological literature under the label "techniques of neutralization," by Sykes and Matza (1957) in terms of its relation to delinquency. Sykes and Matza viewed delinquents as using various excuses and justifications to neutralize the effects of norms and thus effectively counteract the guilt anticipated prior to a norm violation. They identified five such techniques, including denial of responsibility ("I didn't mean it"), denial of injury ("I didn't

really hurt anybody), denial of the victim ("they had it coming"), condemnation of the condemners ("others do worse things"), and appeal to higher loyalties ("I did it for a friend").

Some research has been conducted to relate these techniques of neutralization to stages of moral development. The most notable such effort was that of Radosevich and Krohn (1981). They investigated the impact of using neutralizing definitions on moral evaluations of behavior and advocated sanctions for that behavior within each stage of moral development. The results indicated that use of the techniques of neutralization mitigated moral condemnation of norm violations and the sanctions advocated for the norm violator. In general, the pattern was the higher the stage of moral development, the less likely it was that certain neutralizing definitions would be used.

Another study which measured the propensity to use neutralizing techniques was conducted by Lanza-Kaduce et al. (1983). They measured propensity to neutralize by using a vignette describing an arson situation. First, they obtained subjects' moral evaluations of the behavior without including any conditions reflecting the techniques of neutralization. Later in the questionnaire, they added different conditions designed to represent four of Sykes and Matza's techniques (they omitted the "condemnation of the condemners" technique). Moral evaluations were obtained for these vignettes as well. Subjects responded on a five-point ordinal scale ranging from

"very wrong" to "very right." Propensity to neutralize was the sum of the number of times each respondent relaxed his or her moral evaluations in comparison to their original, unmitigated evaluations.

This measure of propensity to neutralize contains methodological flaws which are discussed by the authors. First, the techniques of neutralization do not exhaust all the possible ways in which one might relax moral evaluations. Second, the study uses only one type of vignette (the arson situation); it is unclear whether use of the neutralization techniques in response to this type of situation would generalize to other types of situations. There isn't much one can do to eliminate the first criticism; however, a measure which included many different types of situations in its vignette would help with the second.

Lanza-Kaduce et al. (1983) caution against using only a single measure of the general propensity to neutralize. Since the particular techniques of neutralization were not specified for the type of delinquency they were investigating (marijuana use), they found a very low relationship between propensity to neutralize and delinquency. Future research which uses a measure of propensity to neutralize should specify the particular techniques of neutralization which are relevant to the behavior being studied. Since the study proposed herein will observe cheating behavior, it will be important to determine the techniques most relevant to this behavior in the experimental situation in which it will occur.

Emotional Processes and Morality

While research on the cognitive aspects of moral behavior has received considerable attention, there has also been a significant effort to develop a model of emotional processes as well. Much of the progress in theorizing about the role of emotion in moral socialization has been due to the research program of Richard Dienstbier and his colleagues at the University of Nebraska. Much of Dienstbier's work has used cheating behavior as the dependent measure. This is not a new idea. Cheating has long been one of the behaviors observed by researchers in the area of moral development. Hartshorne and May were probably the first to use it and many others have used it since. Dienstbier did break new ground by beginning an investigation into the effects of labeling of arousal on cheating behavior, and has since developed many intriguing ideas about the role of arousal in moral decision making. His early work was based on a social psychological phenomenon known as misattribution of arousal, an important concept which deserves its own review before moving into Dienstbier's work.

The concept of misattribution of arousal has its roots in the classic Psychological Review article by Schachter and Singer (1962). The two-factor theory of emotion proposed then has been elaborated on since by Schachter (1964) and has become one of the most influential propositions in social psychology. Schachter's theory of emotion states that an emotional state has two components: physiological

arousal and a cognitively produced label which gives that arousal some meaning. Both conditions must be present for one to experience an emotional state. For example, physiological arousal is necessary for one to experience fear, but the presence of arousal alone is not sufficient. The arousal must be labeled as fear and attributed to some fear-inducing source.

In routine everyday situations, sources of arousal readily supply a cognitive label for the arousal; however, in some situations arousal may initially be seen as "unexplained" and none of the immediately salient cues may be seen as capable of providing a sufficient explanation. This may be the case with consumption of drugs with unknown or unexpected side effects, hormonal fluctuations, the beginning stages of an illness, and so forth (Dienstbier, 1979). Schachter and Singer (1962) proposed that this stage would lead to a state of pressure on the individual to label the arousal. A more recent conceptualization (Harvey and Rule, 1979) suggests the unexplained state of arousal initiates an attributional search which is terminated as soon as a plausible cause is found.

Some experiments have attempted to induce subjects to misattribute emotionally induced arousal to a neutral source. In these studies, the subject is placed in a situation conducive to the development of emotional arousal. Then, the subject is given a placebo described as having arousal-producing side effects (Nisbett and Schachter, 1966). Subjects in the control group are generally given a placebo as

well, but it is described to them as producing either no symptoms or symptoms that are irrelevant to arousal. The rationale behind these manipulations is that the placebo will become salient as a cause for arousal that is actually caused by some other source, and consequently the subject will "misattribute" his arousal to the placebo.

Many studies have produced this misattribution phenomenon and in a variety of settings. For example, subjects who received electric shock were able to tolerate more shock and reported the shock to be less painful when they were in the misattribution condition as compared with the control condition (Nisbett and Schachter, 1966). Subjects who were provoked responded less aggressively in the misattribution condition than the control condition (Younger and Dobb, 1978).

Misattribution also appears to reduce attitude change in studies designed to create cognitive dissonance (e.g. Zanna and Cooper, 1974). There are several other types of studies that have produced the misattribution phenomenon, with some being directly tied to the current proposal. In one such study, subjects who were faced with an incentive to cheat were found to cheat more if a misattribution cue was provided than if one was not (Dienstbier and Munter, 1971). The rationale in explaining such results is that the guilt the subject would normally associate with contemplation of cheating is misattributed to the placebo, thus the probability of cheating behavior is greatly increased.

Since studies relating cheating to misattribution are so important to this proposal, they are worthy of a detailed discussion.

The Dienstbier Studies

Dienstbier and Munter (1971) followed the paradigm of Nisbett and Schachter in conducting the first study on misattribution of arousal symptoms and cheating. In this prototypical study, freshman introductory psychology students were recruited for a study on the "effects of a vitamin-related drug on vision." After being seated in individual booths, the subjects were given a placebo and some written information describing the pill's effects, including its effects on vision and some side effects. All subjects were told that the possible side effects of the drug were harmless. Subjects in the misattribution condition were told they might experience side effect symptoms of "a pounding heart, hand tremor, sweaty palms, a warm or flushed face and a tight or sinking feeling in the stomach." Subjects in the control condition were told they might experience side effects of "a tendency to yawn, a lessening of eye blink rate, and 'tired eyes'." Thus, the side effects in the misattribution condition were designed to mimic the symptoms of a tense state of arousal while the control condition side effects were intended to be irrelevant to such arousal.

Subjects were informed at this point that the drug would take about 15 minutes to take effect. In the meantime, subjects were asked to participate in the standardization of a

vocabulary test to "help out the Educational Psychology Department." To provide some incentive for cheating, the test was accompanied by formal instructions which stated that "although few students score less than 20 on the test, if you do, the board of psychologists who developed this test would like to question you about your subnormal performance." The test was multiple-choice in format and contained 30 items. The words used in the test were so difficult that only one noncheating subject scored over 19.

The 10-minute vocabulary test was followed by a visual perception task in which subjects were exposed to the autokinetic phenomenon to provide credibility to the cover story. This phase of the study proved to be quite effective as all but five subjects reported seeing a light move which in actuality (as was later proven to them) it had not. At this point in the study, the subjects were asked to look over closely a questionnaire which asked them to rate the side effects of the drug they had supposedly taken. This time period was used to increase the salience of the side effects. After a few minutes had elapsed, subjects were told they could look over the correct answers to their vocabulary test before they filled out the side effects form.* They were subtly reminded of the threat of going before the board, and they were formally warned not to change any answers. They were also asked to make sure their answers were dark enough for machine grading and to erase any stray marks they had left on the answer sheet. These instructions gave the subjects a

reason to use their pencil and eraser. The opportunity to change answers was maximized by having the experimenter called out of the room at this point for a long-distance phone call. The experimenter returned a few minutes later and administered the side effects questionnaire and one other questionnaire designed to determine their impressions of the experiment.

The detection of cheating in this study was accomplished with a method similar to the original cheating study conducted by Hartshorne and May (1929). Two sheets below the answer sheet was a sheet of pressure sensitive white bond paper which duplicated all original answers marked on the answer sheet. This pressure sensitive paper was sealed with several dummy sheets so the subject could not see it. Subjects were instructed to pull out the sheet with their answers, thus any changes made were those answers not shown on the pressure sensitive paper.

Dienstbier and Munter (1971) found a significant misattribution effect on cheating behavior. With cheating defined as changing one or more answers, almost twice as many subjects anticipating arousal side effects from their placebos cheated (49% vs. 27%, $p < .02$). Thus, it was apparently demonstrated that the subjects' interpretation of the meaning of the arousal modulated the effectiveness of that arousal in terms of resistance to temptation. However, there was an interesting qualification to be added to these results. The

significance of the effect was due almost entirely to differences among the male subjects.

Dienstbier and Munter attempted to explain the lower level of responsiveness to the placebo manipulation among the female subjects in terms of test anxiety. That is, they explained the difference by making the assumption that women were more anxious about the prospect of failing on the vocabulary test than males. This would explain the results in a manner consistent with the Nisbett and Schachter (1966) pain research in which it was found that the placebo manipulation worked at moderate levels of fear but not at high levels. An alternative explanation for the sex differences would be necessary if no significant differences in actual physiological arousal were found between males and females. In such a case, one would perhaps speculate about differences in cognitive tendencies between the sexes.

A subsequent study by Dienstbier (1972) indicated that when threat intensity was systematically varied across four levels, the lower levels produced a placebo effect for females paralleling that for male subjects. Thus, Dienstbier concluded that males and females do indeed use emotional cues similarly in making decisions about cheating. That is, under moderate levels of arousal, the misattribution of that arousal to an irrelevant source is necessary before cheating rates increase.

Encouraged by these early studies, Dienstbier continued a research program designed to assess the interaction of

emotion and cognition in moral dilemmas and later offered a comprehensive review of the results and their theoretical implications (Dienstbier, 1984). Some of the follow-up studies were designed to strengthen the assumptions made about the original results. For example, the assumption that the difference in cheating rates was due only to the misattribution of arousal to an irrelevant source was challenged by the possibility that the difference was actually due to an attentional deficit in the misattribution condition. That is, the subjects in the misattribution conditions may have cheated more because they had to attend to possible arousal-relevant side effects while the control only had to attend to benign side effects. To test this alternative hypothesis, Dienstbier had two groups of subjects rate their experience in terms of either arousal-relevant or benign side effects, but without taking a pill. The results revealed that simply attending to the side effects did not produce a difference in cheating rates between conditions while two replications (of the original study) conditions showed again that misattribution of arousal to an irrelevant source will increase the probability of cheating.

Dienstbier's studies on moral transgression are not limited to adult subjects. After the discovery that emotional processes were important in adult moral decision-making, it was theorized that similar processes might be operating in children. For example, consider the case of a child who is confronted by his parents who are angry about his behavior.

Such a child will likely experience substantial emotional arousal. Events that occur in this situation may influence the process of labeling the negative state of arousal. A child who is physically punished, when faced with a similar temptation in the future, may attribute his arousal to the previous punishment. If there is no possibility of being detected in the current situation, then the effect may be similar to attributing arousal to the placebo in the cheating experiments; there will be less inhibition against transgression. On the other hand, if a child is given an explanation of why the behavior is wrong instead of being physically punished, he will be more likely to attribute his emotional arousal to the temptation to transgress (an internal source) which could still prevent the transgression, even in a detection-proof situation (Dienstbier et al., 1975).

Such theorizing has been tested in a laboratory setting by Dienstbier et al. (1975). The children in this study were identical twins (to allow for a strengthened matched pairs design). The subjects were left alone in a toy room and had been instructed to watch an electric slotcar on a track. Their job was to make sure the car did not wreck. This was important, they were told, because the car was very old and an accident could seriously damage it. The children eventually abandoned the task of watching the slotcar, and soon after their transgression, the car was made to wreck by a hidden observer. Once the accident had occurred, the observer summoned the experimenter to return to the room. Once

in the room, the experimenter gave the children feedback concerning their current feelings.

The children in the "internal" condition were told they might be feeling unhappy because of what they had done, and that children who do the right thing feel good even when no one else knows what they have done. The children in the "external" condition were told they might be feeling unhappy because the experimenter knew what they had done and that children who can show others they have done something good will usually feel good. After these explanations, the subjects were given a new slotcar to watch, but they now were convinced that the experimenter could not in any way detect their behavior. The results showed a significant effect for the external-internal manipulation. Children in the internal condition failed to watch the slotcar for an average of 177 seconds during a 12 minute observation period, while those in the external condition transgressed an average of 322 seconds ($p < .001$).

Oienstbier and his colleagues have also investigated this internal-external manipulation with adults. Using the paradigm which measures cheating on the vocabulary test, Oienstbier et al. (1980) had college students read a passage which related feelings of emotional tension in children who face a moral dilemma to either internal or external factors. Each passage was followed by a "study question." Internal subjects were asked, "Can you think of any time recently when you were confronted with a moral choice but

resisted transgression due to feelings of emotional tension associated with your knowledge that the transgression violated your own moral values?" External subjects were asked a question with the same beginning, but it ended with "...due to feelings of emotional tension associated with your knowledge that other people might find out that you had transgressed?"

The results showed a significant effect for the type of information a subject had processed prior to experiencing the moral dilemma concerning whether to cheat on the vocabulary test. Only 15% of the internal subjects cheated, compared with 30% of the external subjects and 31% of the subjects in the control condition ($p < .05$). The rationale for the results is that the subjects in the internal condition were more likely to attribute the emotional tension experienced during the contemplation of cheating to internal sources (which were effective even though it was not expected that their cheating could be detected by the experimenter). In contrast, more external subjects cheated because they were processing their arousal in terms of a source (detection by others) that was not particularly relevant to the current situation. This interpretation of the results lends still further support to the notion that, even for college-age adults, appropriate attributions about emotional tension in the face of moral dilemmas are an integral part of the moral decision-making process.

Overview

As one can see, the original studies on misattribution of arousal and cheating have led to considerable theorizing about the role of emotion in moral socialization. Although these theoretical advances may be valid, it is also possible they go beyond what can be unequivocally assumed about the processes that were occurring in these studies. While it isn't necessarily the goal of this proposal to disprove the theoretical ideas that have evolved from those early studies, it is deemed important to provide stern tests of the assumptions on which these ideas are based.

Previous misattribution of arousal and cheating studies have suggested that arousal experienced by subjects when contemplating a moral transgression will be interpreted as having a certain meaning. Depending on factors such as socialization history, some subjects will perceive their arousal as having an internal source which will likely lead it to be labeled as guilt, while others may perceive their arousal as being due to a fear of detection by others, an external source. Although both interpretations will have an inhibitory effect on cheating when the cheating can be detected, the paradigm used in the misattribution studies involves a situation that is presumed by the subject to be detection-proof. In such situations, the external label for one's arousal will likely be seen as irrelevant. Thus, the inhibitory effect is eliminated while the internal label remains a relevant and effective inhibitor against moral transgression.

In the misattribution conditions, the pill is assumed by the subject to create effects which are indistinguishable from the arousal created by the two aforementioned sources. Thus, the pill when ingested becomes a strong candidate as the source of the arousal. This may bring up the question of why the pill would replace one's own personal guilt or fear of detection by others as the perceived source of arousal. To answer this question, it must be accepted that the initial arousal which the subject experiences initiates an "attributional search." This attributional search is conducted to find an acceptable meaning for one's arousal. This goal requires the identification of an acceptable source of the arousal. Generally, the search for such a source ends when an acceptable source is identified. The most likely candidate for such an identification is whatever is the most salient candidate in the current situation. In the misattribution condition, it is generally assumed that the most salient thing is the pill; thus, the pill is identified first and this ends the search before any other source is considered.

This is a plausible view of the processes which underly the increased cheating found in the misattribution condition. However, there is more than just the pill that may be important in the initial phase of the attributional search being conducted by the subject. Although the subject may believe the arousal he is experiencing is due to the pill, the subject is also aware that the pill did not do it on its own.

The true causal agent in this situation is the experimenter, since it is the experimenter who asked the subject to ingest the pill.

After being labeled as the cause of the subject's discomfort, the experimenter will likely be the object of feelings of anger or resentment on the part of the subject. This anger or resentment may have a neutralizing effect on those subjects who contemplate cheating and thus result in an increased probability of cheating. At least two of the techniques of neutralization discussed previously may be relevant to this situation: "denial of responsibility" and "denial of victim."

"Denial of responsibility," as you may recall, involves mitigating a moral condemnation of a behavior by claiming that one is not responsible for the behavior. In the current situation, this might involve using the pill as an excuse for one's cheating behavior. This use of the pill as an excuse has been investigated in studies designed to compare the predictions of impression management theory (Tedeschi, Schlenker and Bonoma, 1971) with those of cognitive dissonance theory (Festinger, 1957).

Among the most definitive of such studies was a series of experiments conducted by Tedeschi et al. (1984). Subjects in these studies chose to write a counterattitudinal essay although they believed it would have a negative impact on the toothbrushing habits of other students (who would be reading the essays). One of the studies was designed to

eliminate the availability of the pill as an excuse for having written the counterattitudinal essay. To do this, some subjects were told that the pill they were to ingest would have the usual tension-related side effects, but it would not have any effect on their moral judgment or behavior. The results showed that those who could not use the pill as an excuse exhibited more attitude change than those who could use it in such a way.

These results appear to lend support to the impression management theory interpretation of previous studies involving misattribution of arousal and attitude change following counterattitudinal behavior. That is, subjects will use the pill as an excuse for their behavior if possible; if this is not possible, then an attitude change strategy is used to preserve their integrity in the eyes of the experimenter. The traditional dissonance interpretation involving misattribution of arousal does not fit, since both groups of subjects should have expected the same arousal properties to emanate from the pill and neither group should have shown any significant degree of attitude change (due to the misattribution of dissonance-related arousal).

While it is apparent that "denial of responsibility" is a neutralization technique which is relevant to moral dilemmas in experimental situations, the current proposal will create a situation which induces the use of the "denial of victim" technique as well. The use of this technique involves the mitigation of moral condemnation by arguing that the

victim deserved the act that harmed him or her. This is relevant to the current experimental situation in that the subject who feels anger or resentment toward the experimenter may decide that the experimenter is a "justifiable" victim if any harm is caused by their cheating on the experimenter's test.

The issue of anger or resentment on the part of subjects has been discussed previously by Dienstbier et al. (1980), but in a different context than discussed here. The discussion by Dienstbier et al. focused on resentment emanating from the vocabulary test (not the pill), and was based on the finding that activation of subjects' moral schemas tended to increase their probability of cheating on a vocabulary test. This effect was contrary to expectations, and was attributed to an interaction between the moral schemas and feelings of anger or resentment toward the "board of educational psychologists" who had developed the vocabulary test. When the vocabulary test was presented as the experimenter's dissertation, research subjects expressed less resentment about the test, and the activation of moral schemas actually decreased cheating rates (compared with control subjects).

These results suggest that anger or resentment may activate processes such as the techniques of neutralization already discussed. Certainly, it is feasible that being given a drug that causes negative tension-related side effects, would create anger or resentment if being given a

difficult vocabulary test does. This anger or resentment may, in turn, neutralize the act of cheating on the test if the same experimenter who is responsible for the drug effects is the victim of the cheating. Assessment of individual differences in propensity to neutralize may be useful in predicting who neutralizes the act of cheating in the negative side-effects conditions, and in determining which technique(s) are being used. Thus, the following hypotheses were formulated for testing in this study.

1. There will be more cheating by subjects in the tense effects conditions than in the relaxed effects conditions or the no effects conditions (a replication), but this will be due to higher levels of resentment about the pill in the tension-related effects conditions rather than misattribution of arousal (a new finding).

2. The effect predicted in #1 above will occur to a significantly greater degree in those conditions where the victim of the cheating is the person who administers the drug to the subject because the resentment about the negative side effects will neutralize inhibitions against harming the source of these negative side effects.

3. Subjects who show a strong tendency to relax their judgments of moral transgressions when mitigating circumstances are presented (high neutralizers) will be more likely to cheat in the current study than those who do not relax their judgments in the face of mitigating circumstances (low neutralizers).

4. Subjects with a propensity to use the "denial of victim" technique of neutralization will be the most likely to cheat when given the proper conditions (tense side effects, with the cheating affecting the person who gave them the pill); they may not show this greater tendency to cheat under the other experimental conditions.

CHAPTER II METHOD

Subjects

A total of 200 college students enrolled in General Psychology were recruited for the experiment through phone calls and normal sign-up procedure. Their participation fulfilled a course requirement. The experiment employed a 3×2 factorial design based on three variations in expected side effects (tension, relaxation, no effects) and two levels of victim labeling (gave pill to subject, did not give pill to subject). Subjects were randomly assigned to each experimental condition.

Side Effects Procedure

In order to expedite the running of the study, students participated in groups ranging in size from three to six. Upon arriving at the laboratory, subjects were seated in booths, where they read the Informed Consent Form (Appendix A) which briefly described the nature of the experiment. After signing the Informed Consent Form, they read the Side Effects Information Form (Appendix B), which informed them that the study involved assessing the side effects of a vitamin supplement. Subjects were told which of three types of side effects to look for (effects related to feelings of tension and arousal, effects related to feelings of relaxation,

or no effects at all). Subjects knew which type of side effects to expect based on the color of capsule they received. They were told that each color represented a capsule with a different type of side effect, but at the present time not even the experimenter knew which color of capsule was in the cup in front of them, because the capsules were distributed at random among the booths.

The side effects associated with the orange capsule were described as "feelings of tension, a pounding heart, hand tremor, sweaty palms, a warm or flushed face, and a tight or sinking feeling in the stomach." The side effects associated with the blue capsule were described as "feelings of relaxation, an increased tendency to yawn, a lessening of eye blink rate, and 'tired eyes.'" The effects associated with the green capsule were described as "a placebo, no effects are expected." It was expected that the orange capsule's side effects would approximate the physical symptoms associated with the arousal experienced during the contemplation of moral transgression. The blue capsule's side effects were expected to be contrary to any such symptoms of arousal which the subjects might experience. All capsules actually contained only gelatin.

Subjects were asked to pay close attention to how they felt during the experimental session, and they were told they would be rating the degree to which they felt the various side effects on the Side Effects Rating List (Appendix C). Subjects were told this information was important because the

only known side effects from the pills were those reported in previous studies, and information was still being garnered on their prevalence. Subjects were informed that the effects were not harmful and that the capsules were designed to be in effect for less than the duration of the experimental session. These effects, they were told, would begin, on the average, fifteen minutes from time of ingestion.

Vocabulary Test Procedure

Once subjects had ingested the pill, they were told that the next fifteen minutes would be used to give them a vocabulary test (Appendix D). The test, they were told, was part of a dissertation project. The person supposedly working on the project was one of two persons depending on the condition the subject was in. Some subjects were told that the test was the project of the experimenter (the same person who gave them the pill). Others were told that the test was the project of another graduate student, who was then brought into the room and introduced. The test was being developed, they were told, for use in predicting success in college, and a sincere effort on each subject's part was needed. Subjects were asked to enter their subject number on their answer sheet because the current phase of test development concerned those who performed poorly on the test, and those who scored less than twenty would be called in for further testing during the next weekend they were available. The test was made up of thirty words. Each word was accompanied by three alternatives, one of which was the correct definition of

the word. Although all thirty words and corresponding alternatives were legitimate, the test was exceedingly difficult.

Cheating Opportunity Procedure

Subjects were told that they could look over the correct answers to the vocabulary test in order to make the test a "learning experience" before they completed the Side Effects Rating List. At this point, they were subtly reminded of the possibility of having to come in on the weekend if they missed more than ten items. They were also reminded whose test it was, and of the importance of getting accurate data on it. Subjects were also told that it was important that all erasures be very clean, that all stray marks be removed from the answer sheet, and that all answers be dark enough for machine grading. These instructions gave the subjects a legitimate reason for using their pencils.

At this point, there was a knock on the door, and after a few whispers with the person at the door, the experimenter explained that she had to leave the room, but would return in about five minutes. Upon the experimenter's return, it was announced that it was time to complete the Side Effects Rating List (Appendix O). After completion of the Side Effects Rating List, subjects were given several questionnaires designed to conduct manipulation checks, and assess important dependent measures. Then they were debriefed and given one experimental credit for their participation.

Manipulation Checks

The first form the subjects read (after the Informed Consent Form) explained the different capsules and their expected side effects. As a manipulation check, subjects were asked to circle the group of side effects that corresponded to the color of their capsule. A more important check for the side effects manipulation was the Side Effects Rating List, which asked subjects to rate the degree to which they felt each side effect listed. The scale ranged from 0 (Not at All Felt) to 3 (Strongly Felt). This measure was completed just after the experimenter returned to the room. A manipulation check for the victim variable was presented in the post-experiment questionnaire in the form of the question "The person responsible for giving you the capsule and the person responsible for the vocabulary test were _____" (the same persons or different persons).

Dependent Measures

Several important dependent measures were presented to the subjects in the form of questionnaire items. These were in addition to the dependent measure of cheating on the vocabulary test which is explained in the next section: The first dependent measure subjects responded to (Appendix E) was a self-esteem measure developed by Rosenberg (1965). It included ten items which were responded to on a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree." This was used to assess the effect of cheating behavior on self-esteem relative to the various experimental conditions.

The next questionnaire completed by subjects involved assessing their propensity to neutralize (Appendix F). This questionnaire contained nine brief descriptions of criminal offenses. One-third of the descriptions were accompanied by a "denial of victim" rationale, one-third by a "denial of responsibility" rationale, and one-third by no rationale at all. Each item was responded to on two nine-point scales representing perceived moral rightness or wrongness of the action (from "very right" to "very wrong"), and recommended punishment for the action (from "minimum punishment allowable" to "maximum punishment allowable").

The final questionnaire presented to the subjects was labeled "Post-Experiment Evaluation Form--Department of Psychology" (Appendix G). It was explained to subjects that the form was a departmental requirement which allowed subjects to give feedback on their experience as a subject. The questionnaire began with two cover items asking subjects "how enjoyable" and "how interesting" the experiment was. Subjects' responses to these two items were not important. Items of importance in terms of how they may be related to cheating behavior were those which measured subjects' evaluation of the experimenter's performance, resentment over the capsule, and resentment over the vocabulary test. All of these items employed nine-point scales. The last item on the post-experiment questionnaire asked subjects what they thought the experiment was investigating. This allowed for deletion of those subjects who responded with answers related to cheating.

Procedure for Detection of Cheating

The procedure for detection of cheating on the vocabulary test was drawn from the classic study of Hartshorne and May (1928). It involved the use of pressure-sensitive white bond paper. A sheet of this paper was two sheets below the machine-graded multiple-choice answer sheet. All original answers marked on the answer sheet were duplicated on the pressure-sensitive paper. Immediately below the answer sheet and covering the pressure-sensitive paper was the answer key for the vocabulary test. Subjects were not allowed to see the answer key until the appropriate time after they had completed the test. Since subjects were instructed to remove their answer sheet to view the correct answers, no changes could be recorded on the pressure-sensitive paper; thus, it could be compared with the subject's final answers (including any changes they may have made).

CHAPTER III RESULTS

Manipulation Checks

Before it is proper to conduct statistical analyses of the dependent variables, it is essential to determine that the independent variable manipulations did indeed work as intended. The major independent variables involved the vitamin capsule's "side effects" and the relation of the person who gives the vocabulary test to the capsule (the "victim" manipulation). Once it has been ascertained that these manipulations were effective then it can be determined if they produced the expected influences on subjects' decisions regarding whether or not to cheat on the vocabulary test.

Capsule Side Effects

The main manipulation of the experiment was a difficult one, but one that had been successfully executed in previous studies. It involved first making subjects aware of the side effects they should expect from the capsule they ingested. Subjects who ingested an orange capsule were told to expect tension-related side effects, those who ingested a blue capsule were told to expect relaxation-related side effects, and those who ingested a green capsule were told to expect no side effects at all. Subjects were asked to

indicate which capsule they had received by circling it on the Side Effects Information Form (Appendix B). Examination of subjects' responses on this form indicated that all subjects knew which color of capsule they had received.

The second aspect of this manipulation check involved convincing subjects that the capsule could actually create these effects. Subjects were asked in the Post-Experiment Questionnaire (see Appendix G, question 4) to indicate what effects they had expected from their capsule. Thirteen subjects, who responded to this item in a manner inconsistent with the condition in which they had been placed, were deleted from the analysis.

The effectiveness of the capsule side effects manipulation was also assessed by using the subjects' responses on the Side Effects Rating List (Appendix C). A new variable called "sidediff" was created in the analysis for the purpose of determining which capsule-related symptoms were predominantly experienced by subjects. "Sidediff" was defined as twice the sum of the ratings for the three relaxation-related symptoms subtracted from the sum of the ratings for the six tension-related symptoms. These ratings were made on a four-point scale ranging from 0 (Not at all felt) to 3 (Strongly felt).

Subjects who ingested an orange capsule were expected to have a higher value for the "sidediff" variable than those who ingested the blue capsule, since a higher value for "sidediff" would represent predominantly tension-related symptoms

being experienced by the subject, while lower values would represent predominantly relaxation-related symptoms being experienced. Subjects who ingested the green capsule were expected to have a value for "sidediff" that was somewhere between the values for the subjects in the orange and blue capsule conditions since the green capsule was not supposed to have any effects at all.

The GLM procedure in S.A.S. (1985) was used to compare the means of the three capsule conditions on the "sidediff" variable. The results confirmed the effectiveness of the side effects manipulation. A main effect for color of capsule was present for the "sidediff" variable ($F(2, 176) = 9.90, p < .0001$). The "sidediff" mean for subjects who ingested an orange capsule was +1.08, the "sidediff" mean for subjects who ingested a blue capsule was -1.42, and the "sidediff" mean for subjects who ingested a green capsule was -0.84. A Duncan multiple range comparison test showed the orange capsule mean to be significantly different from the other two means ($p < .05$). The blue and green means were not significantly different from each other.

Victim Manipulation

The effectiveness of the "victim" manipulation was assessed by question #8, Appendix G, which asked subjects if the person who gave them the capsule was the same person who gave them the vocabulary test. The results on this question revealed that all subjects answered this question in a manner consistent with the condition in which they had been placed.

Vocabulary Test

One other manipulation check concerned the vocabulary test. Since subjects were required to score at least a 20 on the test to avoid a return trip to take some more tests and answer questions regarding their verbal ability, it was important that they had not attained this score before the opportunity to cheat was introduced. Obviously, a subject who had already scored 20 would have no incentive to cheat. Analyses revealed the test was adequately difficult ($M=12.9$, $s.d.=3.25$). Females ($M=13.6$) scored significantly higher than males ($M=12.5$), ($t=2.16$, $p < .04$), on the vocabulary test, but this was not seen as a problem, since both groups were well below the cutoff score of 20. Overall, only two subjects managed a score of 20 or higher without cheating, and they had already been eliminated from the analyses for other reasons. The remaining subjects had scores ranging from 6 to 19 (not including any correct answers gained from cheating).

It should be noted that, in addition to the 13 subjects deleted for not responding to the capsule manipulation, 10 others were deleted from the final analyses because they became aware of the study's focus on cheating behavior. Although it cannot be determined exactly how they became aware of this, there are at least two possibilities. They may have discovered the carbonless bond paper which was recording their responses to the vocabulary test, or they may have been suspicious about the experimenter's motive for leaving the room. In any case, final analyses for the

study included 177 of the 200 subjects who participated in the experiment. This total represents a retention rate of 88.5%, which may not be particularly impressive, but is better than was expected. The issue of possible bias caused by deleting these subjects is addressed in Chapter IV.

Dependent Measures

Cheating Behavior

Of major concern in the study was the incidence of cheating behavior and the cognitive and emotional processes which may have led to such behavior. With cheating defined as changing at least one answer during the time the experimenter was out of the room, 23% of the subjects in the current study cheated. The percentage of cheaters was rather consistent across sex, with rates of 23.3% for women, and 22.2% for men. Out of 117 male subjects who participated in the study, a total of 26 were determined to have cheated on the vocabulary test, while 14 out of 60 women cheated. Table 1 presents the incidence of cheating for all subjects broken down by capsule and victim conditions. Tables 2 and 3 present cheating rates for males and females separately.

The cheating rates obtained in the current study are somewhat lower than the overall cheating rate of 37.9% obtained by Dienstbier and Munter (1971). The current study's results are similar to the original study in their lack of difference in cheating rates between males and females, but the original study did find a major sex difference in terms of the presence of a misattribution of arousal effect on

Table 1
Classification of All Subjects as Cheaters and Noncheaters
by Condition

	Side Effects Expected			Totals
	Tension	Relaxation	None	
Test Administrator Responsible for Capsule	C=7 NC=25 21.8%	C=6 NC=26 18.8%	C=5 NC=15 25.0%	C=18 NC=66 21.4%
Test Administrator Not Responsible for Capsule	C=9 NC=27 25.0%	C=8 NC=27 22.9%	C=5 NC=17 22.7%	C=22 NC=71 23.7%
Totals	C=16 NC=52 23.5%	C=14 NC=53 20.9%	C=10 NC=32 23.8%	C=40 NC=137 22.6%

Table 2
Classification of Male Subjects as Cheaters or Noncheaters
by Condition

	Side Effects Expected			Totals
	Tension	Relaxation	None	
Test Administrator Responsible for Capsule	C=5 NC=16 23.8%	C=4 NC=15 21.1%	C=2 NC=11 15.4%	C=11 NC=42 20.8%
Test Administrator Not Responsible for Capsule	C=6 NC=18 25.0%	C=6 NC=18 25.0%	C=3 NC=13 18.8%	C=15 NC=49 23.4%
Totals	C=11 NC=34 23.5%	C=10 NC=33 20.9%	C=5 NC=24 23.8%	C=26 NC=91 22.6%

Table 3
Classification of Female Subjects as Cheaters or
Noncheaters by Condition

	Side Effects Expected			
	Tension	Relaxation	None	Totals
Test Administrator Responsible for Capsule	C=2 NC=9 18.2%	C=2 NC=11 15.4%	C=3 NC=4 42.9%	C=7 NC=24 22.6%
Test Administrator Not Responsible for Capsule	C=3 NC=9 25.0%	C=2 NC=9 18.2%	C=2 NC=4 33.3%	C=7 NC=22 24.1%
Totals	C=5 NC=18 21.7%	C=4 NC=20 16.7%	C=5 NC=8 38.5%	C=14 NC=46 23.3%

cheating; this effect was significant for males, but not for females. In the current study, no misattribution of arousal effect on cheating was found either for males or females individually, or for the two groups combined. Other analyses conducted to test the major hypotheses also revealed no sex differences, thus all analyses that were relevant to these hypotheses were collapsed across the variable of sex to include all 177 subjects. (Some post hoc t-test differences between males and females on certain noncheating variables were found and are presented later in this chapter.)

Cognitive and Emotional Processes Relevant to Cheating

Of particular interest in the current study was the relative importance of cognitive and emotional processes in distinguishing between cheaters and noncheaters. A measure designed to assess one's propensity to neutralize (Appendix F) was developed to examine cognitive processes relevant to

decisions concerning the cheating dilemma, and an already well-established placebo side effects manipulations was used to examine the role of emotional arousal.

Also examined in the current study was the variable of self-esteem, as it related to differences between cheaters and non-cheaters. However, this was of secondary interest to the examination of the effects of labeling of emotional arousal and the effects of one's propensity to neutralize on how likely one is to cheat. Thus, the first analyses presented are those assessing the influence of the two main independent variable manipulations on the dependent measure of cheating.

Dienstbier (1971) had previously found a significant difference in cheating rates between those who expected relaxation-related side effects or no side effects and those who expected tension-related side effects. Unfortunately, no such tendency was revealed in a chi-square analysis of the data from the current study. The observed cheating rates were 20.0% for subjects anticipating tension-related side effects, 26.7% for subjects anticipating relaxation-related side effects, and 21.1% for subjects expecting no side effects at all from the capsule they ingested. As one can see, these percentages appear to be in the opposite direction of previous studies; however, the obtained chi-square value was not significant, $p > .50$. This result clearly represents a failure to replicate the misattribution of arousal effect

on cheating rates that had been previously reported by Dienstbier and Munter (1971).

As the reader may recall, the predictions set forth in the introduction suggested that cognitive processes such as those relevant to techniques of neutralization might provide stronger predictive power for determining who cheats on the vocabulary test than the labeling of emotional arousal (hypothesis #1). Essential to the neutralization process being important in the context of the current study was providing the subjects with an opportunity to rationalize cheating on the test, while still making it clear to them that they would be doing a great disservice to the person giving them the test (under the pretense that the person needed accurate results to complete the validation of the test). It was hypothesized that giving a subject a pill designed to create several unpleasant tension-related symptoms in them would be sufficient to trigger the neutralization process, by causing them to feel resentment toward the person responsible for the capsule.

For this hypothesis to be properly tested, it was desirable that those subjects who ingested the orange capsule (tension-related effects) express more resentment about being asked to take the capsule than the subjects in either the blue (relaxation-related effects) or green (no effects) capsule conditions. A GLM analysis did produce a relationship between the level of resentment over taking the capsule and the color of the capsule that the subject received, $F(2,176)=$

4.40, $p < .02$. However, the pattern of these differences varied somewhat from expectations.

The subjects who ingested the orange and blue capsule did not differ significantly in their levels of resentment about being asked to take the capsule; however, both of these groups did express levels of resentment that were greater than the subjects who ingested the green capsule and did not expect any side effects at all. On a nine-point scale with "1" representing no resentment and "9" representing the most resentment, subjects who ingested an orange capsule ($M=2.41$, $t(67,41)=2.05$, $p < .05$), and subjects who ingested a blue capsule ($M=2.39$, $t(66,41)=2.0$, $p < .05$) expressed greater resentment than subjects who ingested a green capsule ($M=1.72$).

A possible explanation for this effect could be that the relaxation-related symptoms that subjects expected were seen as just as negative as the tension-related effects. That is, symptoms such as reduced eye-blink rate, and increased tendency to yawn, might be seen as invasions of one's physical stability to the same extent that symptoms such as a pounding heart, sweaty palms, and a tight feeling in the stomach are. Apparently, only those subjects who expected no side effects at all felt they had not been violated in some way.

Since it had been previously determined that resentment can lead to greater justification for cheating, the hypothesis that resentment about the capsule and its side effects could lead to differential cheating rates among

different capsule conditions could still be confirmed through the current study, if higher cheating rates were observed for the tension-related and relaxation-related side effects conditions than for the no effects condition. This is possible because it was most important in testing this hypothesis to establish that the different capsule conditions did indeed create varying levels of resentment, regardless of the pattern of this variation. Unfortunately, no significant differences in cheating rates were found between these conditions.

The second hypothesis being tested was dependent on the first hypothesis being confirmed. Hypothesis #2 dealt with the "victim" manipulation, stating that more cheating would occur when the victim of the cheating was an experimenter who was responsible for making the subject take the capsule. No significant effect on cheating was produced by this independent variable.

The third and fourth hypotheses involved the propensity to neutralize measure, and its ability to predict who would cheat on the vocabulary test. Subjects' propensity to neutralize was the extent to which their moral evaluations of criminal acts presented without an excuse were relaxed when the same acts were presented with an excuse. The excuses represented either the "denial of victim" or the "denial of responsibility" technique of neutralization. The internal reliabilities (using Cronbach's alpha) of these three moral evaluation scales were .98, .93, and .95,

respectively. T-test comparisons of cheaters and non-cheaters on their propensity to use the two techniques of neutralization ("denial of victim" and "denial of responsibility") as well as an overall propensity to neutralize, did not produce any significant differences.

Further Comparison of Cheaters and Noncheaters

Although the analyses conducted to test the specific hypotheses presented at the outset of the study produced rather disappointing results, it was also of interest to investigate any other differences between cheaters and non-cheaters that might have emerged in the current study. One such factor of interest was whether resentment stemming from the capsule-induced side effects might be unique to the subjects who were classified as cheaters. A t-test comparison of cheaters and noncheaters on question #5, Appendix G, which asked them how much resentment they felt regarding the capsule they had been asked to take, revealed no difference between the two groups. However, an examination of within-group correlations for question #5 and question #6 on Appendix G (the latter asked subjects the degree to which they felt side effects from the capsule), did reveal a difference between cheaters and noncheaters. A positive correlation between these two measures was present in both groups, but this correlation was stronger for cheaters ($r = +.35$, $p < .002$), than for noncheaters ($r = +.35$, $p < .05$). Using Fisher's r to z transformation, this difference was found to be significant ($t = 2.02$, $p < .05$).

Also of interest, due to its importance in previous studies, was the level of resentment directed toward the vocabulary test and its developer. This appears to be a variable that is independent from resentment toward the capsule, as evidenced by the fact that no correlation was found to exist between subjects' resentment toward the vocabulary test and the degree to which they reported feeling side effects, nor was any correlation found between the two resentment measures. Although Dienstbier et al. (1980) had indicated that he was able to reduce the level of resentment concerning the vocabulary test by telling subjects it was a doctoral research project of the experimenter, the results of the current study suggest that resentment about the vocabulary test still plays a very important role in the moral decisions of subjects concerning whether or not to cheat on the test. Subjects who cheated on the test were significantly more resentful about the test than those who did not cheat ($t=2.12$, $p < .03$). On a scale ranging from 1 (no resentment) to 9 (extreme resentment, cheaters had a mean of 5.1, while noncheaters had a mean of 4.1. This result was consistent with an earlier finding by Dienstbier et al. (1980), which suggested that resentment toward the vocabulary test increased cheating by subjects.

Spurred on by this finding, it was hoped that further examination of the differences between cheaters and noncheaters might be fruitful. However, this was hardly the case as multiple t-test comparisons of cheaters and

noncheaters revealed surprisingly few differences. In fact, only one additional difference was present at the $p=0.5$ level (see Table 4). This result showed that noncheaters ($x=.262$) were more likely to report a tight or sinking feeling in the chest than cheaters ($x=.075$), ($t=2.0$, $p < .05$). this difference is not consistent with any previous findings, and may be simply a spurious result, since it was the only one of nine side effects to produce a difference between cheaters and noncheaters.

Table 4
Results of T-Test Comparison
(Cheaters vs. Noncheaters)

Variables Significant at $p=.05$	Cheaters	Means Noncheaters
Reporting a tight or sinking feeling in the stomach	.075	.262
Expressed resentment over the vocabulary test	5.1	4.1

Although the main independent variables did not produce the predictive ability expected, useful information pertaining to the classification of subjects as noncheaters or cheaters may still be obtained through the use of more sophisticated analyses than t-tests. The most useful model for such a comparison is usually a linear discriminant model. Thus, a backward stepwise discriminant analysis using the STEPDISC procedure for SAS (1985) was conducted.

Discriminant analysis is a technique used to classify individuals into one of two or more alternative groups based on a set of measurements. The groups must be distinct

and each individual must belong to one of them. Thus, discriminant analysis is somewhat analogous to regression analysis in that it involves prediction and description. Its usefulness lies in its ability to test for the individual contributions of classification variables. In other words, one can identify a selective group of variables whose values will allow the classification of subjects as cheaters or non-cheaters better than by chance alone. The stepwise discriminant analysis used herein allows one to determine whether the predictive value of the model is enhanced by removing a certain variable. The backward direction of the procedure allows us to start with all variables of interest in the model (except those that are not linearly independent). One can then remove the variable which contributes least to the discriminatory power of the model (as measured by Wilks' lambda). Once all variables meet the criterion to stay (in this case, $p=.15$), then the stepwise removal process stops. $P=.15$ is actually a stricter value than the $p=.30$ suggested by Afifi and Clark (1984), and is the default value for the STEPDISC procedure.

Ten variables were entered in the first step of the discriminant analysis procedure. The variables included were the main independent variables of capsule side effects expected and the relationship of the victim of the cheating to the vocabulary test, as well as several other dependent measures including reported side effects, tendency to neutralize judgment concerning rightness or wrongness of a

criminal act, tendency to neutralize judgment concerning punishment of a criminal act, resentment over having to take the vocabulary test, resentment over having to take the capsule, and the degree to which various side effects expected were actually experienced. The results of the discriminant analysis are presented in Table 5.

Table 5
Results of Discriminant Analysis
with Cheating as the Dependent Measure

Significant Predictor Variables	F	Prob > F
Type of side effects expected	3.477	.0639
Resentment over taking vocabulary test	2.984	.0859
Tendency to neutralize one's judgment concerning the rightness or wrongness of a criminal act	2.371	.1255
Rating of experimenter "A" performance	2.247	.1357

Four variables remained in the model at the end of the stepwise removal process due to the F values being sufficient to withstand the $p=.15$ removal criterion. The variables remaining were color of capsule ingested $F(1,173)=3.48$, $p=.0639$, resentment over taking the vocabulary test $F(1,173)=2.98$, $p=.0859$, the tendency to neutralize one's judgments concerning the rightness or wrongness of a criminal act $F(1,173)=2.37$, $p=.1255$, and the rating of the performance of experimenter "A" (the one who administered the capsule) $F(1,173)=2.25$, $p=.1357$.

Some have suggested that, since the logistic regression model makes fewer assumptions than the linear

discriminant model (such as assumptions of multivariate normality), it is preferable (Press and Wilson, 1978). Thus, a stepwise logistic regression using the LOGIST procedure from SAS (1985) was also conducted to test the variables' contributions to a model based on more stringent assumptions. The results of this logistic regression procedure are presented in Table 6.

Beginning with the same set of variables used in the discriminant analysis, and a $p=.20$ criterion for inclusion in the model, only three variables were important enough contributors to be included in the model. The results showed the most important variable to be the tendency to neutralize one's judgment of the wrongness or rightness of a criminal act, $p=.1179$. Next was one's severity of recommended punishment for a criminal act, $p=.1727$, and third was the level of resentment over taking the vocabulary test. No other variables met the $p=.20$ significance level required for entry into the logistic regression model.

Table 6
Results of Stepwise Logistic Regression
with Cheating as the Dependent Measure

Significant Predictor Variables	Chi-square	P
Tendency to neutralize one's judgment concerning the rightness or wrongness of a criminal act	2.44	.1179
Severity of punishment recommended for criminal action	1.86	.1727
Resentment over taking vocabulary test	1.65	.1988

Self-Esteem

The Rosenberg Self-Esteem Scale (Appendix E) was used to assess possible differences in self-esteem that existed between cheaters and noncheaters before the vocabulary test and the opportunity to cheat existed. This measure was readministered after the vocabulary test and opportunity to cheat had been provided to examine possible differences in self-esteem caused by the cheating behavior itself.

The results of the t-test showed no significant difference between cheaters and noncheaters on the pre-test measure of self-esteem. The mean self-esteem score for cheaters was 42.7 and the mean score for noncheaters was 41.9 ($t=0.92$, $p > .36$). Comparing the two groups on a pre-post difference scale using the self-esteem measure also revealed no significant difference between cheaters and noncheaters. The mean pre-post change for cheaters was $+.07$, while the mean pre-post change for noncheaters was $-.02$, $t(136,39)=-.14$, $p > .88$.

Sex Differences

Another variable that was examined during the data analysis was that of gender. Although no specific hypotheses were formulated in relation to this variable, it was at least of exploratory interest to conduct t-test comparisons of males and females on the various dependent measures used in the study. Four significant differences between males and females were revealed by the analyses. As already noted, one reconfirmed the general finding that females score higher

on verbal aptitude tests than males (Maccoby and Jacklin, 1974). On the 30-item vocabulary test used in the study, female subjects scored an average of 13.62, while males scored an average of 12.50. This difference was statistically significant ($t=2.16$, $p < .04$). When one considers the fact that a score of 10 would represent a chance level score (there were three answer choices per question), these scores are not particularly impressive. However, one must also consider that the test was quite difficult.

The other three sex differences resulted from the questionnaire designed to assess subjects' tendency to neutralize. These results revealed that (1) females had a greater tendency to neutralize the severity of punishment for a criminal act when "denial of victim" was the rationale for the act ($t=2.48$, $p < .02$); (2) females recommended more severe punishment for the crime of assault when "denial of victim" was the rationale for the act ($t=2.07$, $p < .04$); and (3) males recommended more severe punishment for the crime of assault when "denial of responsibility" was the rationale for the act ($t=2.16$, $p < .04$). These results are summarized in Table 7.

Table 7
Results of T-test Comparison
(Males vs. Females)

Variables Significant at $P < .04$	Means	
	Males	Females
Tendency to neutralize severity of punishment recommended for a criminal act when retribution is the rationale for the act	1.03	2.31
Severity of punishment recommended for assault when retribution was the rationale	5.48	6.30
Severity of punishment recommended for theft when too much stress was the rationale	6.91	6.33
Number items answered correctly on vocabulary test excluding items changed by cheaters	12.50	13.62

CHAPTER IV DISCUSSION

This study set out to illuminate the cognitive and emotional processes which operate in an individual faced with a moral dilemma. More specifically, it tested competing hypotheses which sought to explain the results of previous studies involving the misattribution of arousal and cheating. These studies had revealed that subjects who expected to experience capsule-induced side effects related to sympathetic arousal were more likely to cheat on a vocabulary test than subjects who did not expect to experience such side effects. The basis for this finding lies in the theory that subjects who contemplate a moral transgression such as cheating normally experience symptoms related to sympathetic arousal, and subsequently label this arousal as fear or guilt. This labeling of arousal has an inhibiting effect on cheating. However, when subjects have ingested a capsule which they expect to induce such arousal symptoms, they do not label their arousal as fear or guilt. Instead, they label the arousal as drug-induced. This is a label which does not inhibit cheating, as fear and guilt do.

The current study sought to challenge this "cognitive labeling of arousal" explanation of cheating by testing four hypotheses which supported an explanation based on the use

of "techniques of neutralization." The first hypothesis stated that, as had previously been found, there would be more cheating by subjects in the "tense effects" conditions than in the "relaxed effects" conditions or the "no effects" conditions, but it also stated that this result could be explained by something other than misattribution of arousal. That is, it could be explained in terms of the cognitive processes of neutralization, a relaxation of moral standards triggered in this case by higher levels of capsule-related resentment, and subsequently greater justifiability of cheating.

Confirmation of this hypothesis was dependent on the replication of previously published findings relating misattribution of arousal to increased cheating rates. Unfortunately, this misattribution of arousal effect was not replicated. The idea that the different capsule conditions were creating differential levels of resentment was confirmed; however, the pattern of these differences was somewhat different than expected, with both the tension-related side effects and the relaxation-related side effects conditions creating more capsule-related resentment than the no side effects conditions. Thus, in order for the hypothesis to be confirmed, a pattern of results in which the cheating rates for both the tension-related side effects conditions and the relaxation-related side effects conditions were higher than for the no side effects conditions would have had to emerge. Since there was no significant difference in

cheating rates among the three capsule conditions, the first hypothesis was not supported by the data.

The second hypothesis set forth in this study suggested that a subject's probability of cheating on the vocabulary test could be influenced by manipulating who the victim of the cheating would be. It was theorized that, since the subjects' cheating would mainly be the result of the cognitive process of neutralization, this would manifest itself in greater cheating when the victim of the cheating would be the person who gave them the capsule than if the victim was perceived as totally unrelated to the capsule and its negative side effects. This hypothesis was tested by including two different victim conditions (one in which the same person gave the subject the capsule and the vocabulary test, and one in which two different persons administered these two parts of the experimental session). The data did not confirm this hypothesis.

The third hypothesis involved an attempt to identify a characteristic in subjects which might be best called "propensity to neutralize." This characteristic was measured by a questionnaire (see Appendix F) developed specifically for this study in which subjects were asked to rate various criminal acts on two dimensions. One dimension was how right or wrong they thought the act was, and the second dimension was the degree of punishment they would recommend for the perpetrator. A subject's propensity to neutralize was defined as the extent to which they relaxed their moral

judgment of rightness or wrongness and their recommended punishment for the criminal act, when the act was presented with a rationale (as compared with their judgments when the act was presented with no rationale at all). Neither subjects' propensity to relax their judgment of the rightness or wrongness of a criminal act nor their propensity to lessen the severity of recommended punishment when presented with a rationale for the act were significant predictors of their classification as a cheater or a noncheater.

The fourth hypothesis was closely related to the third, in that it was based on the propensity to neutralize measure. It was hoped that, even if the more general measure of subjects' propensity to neutralize could not be used to predict their probability of cheating on the vocabulary test, that breaking down the questionnaire items into two different types of propensity to neutralize would lead to greater predictive ability for the measure. Thus, the items on the questionnaire included items designed to assess two different techniques of neutralization as originally defined by Sykes and Matza (1957). The two chosen for the current study, based on their greater relevancy to the cheating paradigm, were the techniques known as "denial of victim" and "denial of responsibility." As with the overall measure of one's propensity to neutralize, the more specific measures were not good predictors of whether or not one would cheat on the vocabulary test.

The Failure to Replicate

One aspect of this study involved the replication of earlier findings concerning the misattribution of arousal and cheating on a vocabulary test. In order to increase the probability of replicating this effect, painstaking care was taken to follow the exact procedures of the original studies which led to this one. Replicas of the original materials used by Dienstbier and Munter (1971) were obtained. Thus, the current study was able to utilize the identical vocabulary test, and the same type of "cheating booklet" as the original cheating studies had used. Nevertheless, the misattribution effect on cheating that was reported in 1971 was not replicated. This points out the difficulties facing social psychology in terms of replication of published findings.

Although original findings in social psychology are often reported and accepted as "fact," there are inherent difficulties in accepting such findings as "fact" when they can't be replicated by other researchers on other subject populations. Despite the materials used in the current study being almost identical to those used in earlier studies, there were still some unavoidable differences. For example, the subject population used was different. Perhaps subjects in 1987 differ in critical ways relevant to the processes of a social psychology experiment from those who participated in the original 1971 experiment.

Certainly, the more often an effect is uncovered in experiments, the more confident we can be that it reflects an actual relationship. The misattribution of arousal effect is a frequently found effect in the social psychology literature, yet this type of commonality still doesn't mean we can accept the misattribution of arousal phenomenon as "fact." Rosenthal (1979) has described what he calls the "File Drawer" problem. This refers to the phenomenon of investigators publishing and reporting research only when a significant effect has been uncovered. If a replication attempt fails, then the researcher usually decides that something went wrong. For example, the wrong materials were used or the original procedures were not properly followed. In the case of such a failure to replicate, the research will likely be stored away in a file drawer and never reported.

The failure of the current study to replicate previously well-accepted findings concerning misattribution of arousal and cheating may never be known to most social psychologists. Since other such failures also will likely be "filed away," the effect may continue to be seen as a strong one, and its potential difficulty in being replicated may remain a secret. (Of course it remains a distinct possibility that the misattribution of arousal effect on cheating is a strong one, and that the current study was flawed in some way.)

Other Problems

In addition to the disappointment of failing to replicate the previously demonstrated relationship between

misattribution of arousal and cheating (and the related hypothesis concerning capsule-based resentment), the current study also fell short of expectations in its attempt to establish a link between subjects' propensity to use certain techniques of neutralization and their tendency to engage in cheating behavior.

The measure developed for the study was based on a similar one used by Lanza-Kaduce et al. (1983). Following their recommendation, it was determined which of the techniques discussed by Sykes and Matza (1957) would be relevant to the specific experimental situation used in this study. The techniques assessed in the current study were "denial of victim" and "denial of responsibility." It was deemed important from the outset to be able to measure not just an overall propensity to neutralize, but individual techniques as well. However, as was presented in Chapter III, Results, neither the use of the "denial of victim" technique nor the "denial of responsibility" technique were significantly related to cheating behavior. The overall measure of propensity to neutralize showed some predictive value according to the discriminant analysis and logistic regression procedures conducted, but these effects were still rather weak.

When looking for some reasons for this lack of a strong relationship between propensity to neutralize and cheating behavior, one must consider the possibility that college students simply do not utilize neutralizing definitions very much. According to a study by Radosevich and Krohn (1981),

individuals at higher stages of moral development are less likely to utilize specific neutralizing definitions when making moral evaluations. In general, they concluded that there is an inverse relationship between one's level of cognitive moral development and the use of the techniques of neutralization. Certainly, by the time one has entered college, there are many other learned normative definitions that may have a bearing on one's moral decisions, and the neutralization measure was likely sampling only a small proportion of these.

Another perspective from which to criticize the current study might involve a discussion of whether or not a situation created within an experimental setting can be construed as a moral situation by the subjects. The current study did not ask subjects the extent to which they thought cheating on the vocabulary would be wrong. However, this question was previously asked by Oienstbier et al. (1980) who used the same paradigm as the current study. On the average, their subjects rated cheating on the test as being midway between "moderately wrong" and "very wrong." This suggests that subjects do perceive the situation as a moral one which involves a choice between right and wrong.

Another issue that might be raised is the influence of demand characteristics in the current study. Certainly, the literature on demand characteristics is well documented. It is not too far-fetched to think that some subjects may have thought the experimenter actually wanted them to cheat and

tried to make it easier for them by leaving the room. Perhaps the lack of differences between cheaters and non-cheaters is more understandable if one assumes that both groups were trying to be "good subjects" and "please" the experimenter. Possibly, one group perceived the experimental situation as a moral one and tried to please the experimenter by not cheating, while the other group perceived cheating as what the experimenter really wanted them to do.

A strong challenge to this line of reasoning could be mounted by pointing out that at least moderate levels of resentment toward the experiment's vocabulary test were expressed by subjects. Furthermore, more resentment toward the test was expressed by cheaters than by noncheaters. Since subjects were feeling resentment toward the vocabulary test, it is unlikely that they were very motivated to be such a "good subject" and "please" the experimenter.

In reference to the issue of demand characteristics, the original study by Dienstbier and Munter (1971) stated that it had tried to handle demand characteristics by conducting the study during the first four weeks of the semester, by using only freshman subjects, and by making it the first experimental participation for the subjects. Unfortunately, these requirements proved to be too tall an order for the current study. If the study had been run only during the first four weeks of the semester, it would probably not have been completed for approximately two more years due to the difficulty in obtaining subjects. The same would hold

true for the requirement of using only freshman subjects, since many students in the subject pool were beyond their first year of college. Requiring the experiment to be the first one for all subjects would also have caused serious difficulties, although this would probably be a useful criterion to use if one wanted to avoid any suspiciousness on the part of subjects. Even then, one can never be sure that previous subjects have upheld their vow of confidentiality regarding the nature of the experiment.

Resentment and Cheating

Despite the relatively negative tone of this chapter in terms of the study's success in furthering theoretical knowledge in the study of morality, there is some continuity between this study's results and the results of previous studies of cheating behavior. Much of this continuity revolves around the variable of resentment and is worth bringing to the forefront of the discussion at this time.

In previous research on emotion attribution and schema activation, Dienstbier et al. (1980) had found that when subjects' moral schemas were activated by reading a passage about morality, they actually cheated more than when no such passage was read. This result was contrary to their expectation that activation of moral schemas would decrease one's tendency to cheat. They attempted to reconcile this difference by theorizing that their subjects were perceiving the vocabulary test and the subsequent scrutinization of their performance by a powerful and intimidating "Board of

Examining Psychologists" as unfair and immoral, especially when they became sensitized to moral issues (by reading the passage). These subjects resented the vocabulary test so much that they were able to neutralize the immorality of cheating.

Dienstbier et al. had not directly measured their subjects' feelings of resentment toward the vocabulary test and its makers; however, they did attempt to confirm that such resentment and subsequent neutralization processes were influencing the results of their study. A subsequent study attempted to reduce resentment toward the vocabulary test by making it a doctoral research project of the "graduate student" who was presenting it. That study produced the predicted results, with subjects who were more morally sensitized cheating less. Another study verified that the changes in the presentation of the vocabulary test had indeed reduced resentment as well as lowered ratings of "wrongness of cheating." Thus, this series of studies served to verify the presence of the intervening variables of test-related resentment and cheating justification.

It was based on this verification that the current study was designed to examine the possibility of capsule-related resentment also being an intervening variable. Capsule-related resentment was never assessed in any of the Dienstbier studies, so there was no evidence that it actually existed. Measures used in the current study showed that it did exist, but at lower levels than test-related resentment. This occurred despite the fact that the current study used

the second Dienstbier et al. design, which was supposed to eliminate the intervening variable of test-related resentment. For some reason, test-related resentment continued to be a factor, with cheaters resenting the vocabulary test more than noncheaters. Perhaps this test-related resentment reduced the salience of capsule-related resentment for the subjects, except when they were specifically instructed to pay attention to the side effects they were experiencing.

In addition to diminishing capsule-related resentment as a factor in the current study, the test-related resentment felt by subjects may have also reduced the chances of the misattribution of arousal effect on cheating being replicated. Nisbett and Wilson (1977) argue that people are not really aware of cognitive processes or cannot report them accurately if they are aware of them. It may be that attributions about internal states of arousal change constantly depending on what is salient. Thus, in the current study, subjects may have temporarily responded in accordance with the capsule information they received because that information was salient when they were looking at the side effects rating list. The rest of the time, the salient internal state may have related to their negative feelings about the vocabulary test. Feelings about the test probably did not differ much between conditions, and as a result, neither did cheating rates.

Quite relevant to this point is a finding from the original Dienstbier and Munter (1971) study. As you may recall, that study found no significant difference in

cheating rate between males and females. What it did find was a difference in the presence of a misattribution of arousal effect; the effect was significant for males, but not for females. This phenomenon was hypothesized to have occurred because the female subjects were so threatened by the powerful and intimidating "examining board" they were going to have to face, that they could not attend properly to the capsule and its side effects. Meanwhile, males (who were experiencing less test-related anxiety) were able to attend to the capsule manipulation. A later study (Dienstbier, 1972), which made the vocabulary test and its constructors less intimidating, was able to produce the misattribution of arousal effect for both males and females. It is possible that, in the current study, both males and females were so concerned about the vocabulary test that they did not attend to the capsule side effects manipulation and therefore, both sexes mimicked the females of the original study.

If it is assumed that test-related resentment was the most salient factor for subjects during the period in which they had the opportunity to cheat, then another plausible explanation for its influence on cheating behavior might involve the possibility that this resentment was a source of misattribution for those subjects who cheated. Feelings of resentment are probably interpreted as negative states of arousal, and therefore, could interfere with a subject's ability to interpret negative feelings related to guilt or fear accurately. The more negative arousal that was

interpreted as resentment toward the test, the less that was left to be labeled as fear or guilt (labels that would inhibit cheating).

Also of possible usefulness in explaining the resentment-cheating link would be an examination of the type of moral reasoning being used by subjects in the study. Feelings of resentment may have operated to increase cheating on a strictly rational level in which the subjects saw the "unjust" vocabulary test as something that simply invalidated any moral contract that may have existed between the subject and the experimenter. There may have been a set of moral principles available in the subject's mind, but these principles may not have been applied to the experimental situation because of the "immorality" of the vocabulary test. Instead, a neutralization process may have occurred which served to increase the justifiability of cheating.

Thus, the existence of a resentment-cheating relationship might be explained in at least three different ways. Resentment could increase cheating by 1) refocusing the subject's attention away from the moral schemas that would normally be salient in a moral situation; 2) causing negative arousal originally induced by guilt to be mislabeled as resentment; or 3) invalidating any moral obligation the subject might have felt to honor the experimenter's request for honest responses.

Suggestions for Future Research

Suggestions for future research should center around designing studies that would clarify the relationship between resentment and cheating. Any study of this type would necessitate assessing subjects' level of resentment toward the vocabulary test and grouping them accordingly. Comparisons could be made between subjects of high and moderate levels of resentment in conjunction with independent manipulations that investigate hypotheses relating to attentional mechanisms, cognitive labeling of arousal, and moral reasoning. Subjects who expressed little or no resentment would probably not be of much use since they would likely produce very few cheaters (assuming resentment is a critical factor in producing cheating behavior).

The idea that resentment leads to cheating by diverting a subject's attention away from previously activated moral schemas could be studied experimentally. Previous research by Dienstbier et al. (1980) found that the activation of moral schemas actually increased cheating rates for subjects with higher levels of resentment. A subsequent study, which used a paradigm designed to produce lower levels of resentment in subjects, found that activation of moral schemas decreased cheating rates. These results suggest that equal levels of schema activation actually led to opposite effects on cheating rates. This is somewhat difficult to explain unless there was some kind of deficit in attending to the moral schemas in the high resentment subjects.

Activation of moral schemas in these studies was accomplished by having subjects read passages related to morality. One problem with these studies was a five-minute delay which occurred between the reading of the morality passage and the opportunity to cheat on the vocabulary test. This might have been sufficient time for some decay of the moral schemas to occur in the subject's mind, especially in subjects who may have had their attention diverted from the schemas by strong feelings of resentment. Thus, a reactivation of the moral schemas might be necessary for them to exert an influence on a subject's decision regarding whether or not to cheat on the vocabulary test. If making the moral schemas salient again reduced cheating for the high resentment subjects, then it would lend support to the view that attentional mechanisms are important. If the reactivation of the moral schemas had no effect (or increased cheating even more), then the original idea suggested by Dienstbier et al. (1980), that the moral schemas were interacting with resentment to increase cheating, would stand.

The notion that resentment, as a negative state of arousal, might interfere with a subject's ability to properly label any arousal that might arise from fear or guilt could also be studied in an experimental design. Again, subjects would be grouped into high and moderate resentment groups. Half of each of these groups would then read information which explains the phenomenon of misattribution of arousal and explains to the subject how it may affect the degree of

fear or guilt they feel during the study. If the resentment-cheating relationship is indeed a result of misattribution of arousal, then being made aware of the phenomenon should decrease cheating rates in highly resentful subjects more than for moderately resentful subjects.

The level of a subject's moral reasoning might also be a factor in the influence of resentment on cheating. This might be studied by assessing subjects' moral development through the use of some assessment device such as those developed by Kohlberg (1969) or Rest (1976). An examination of the interaction between one's stage of moral development and one's level of resentment toward the vocabulary test might shed some light on the role that cognitive moral development plays in mediating the relationship between resentment and cheating.

Although investigation of the relationship between resentment and cheating should be the primary goal of any future research plans, there are several other areas of interest that are also worth discussing in the context of suggestions for future research on cheating behavior. The discussion now turns to these areas of secondary interest.

It can be said that those subjects who were deleted from the analyses were less suggestible than the ones who were retained, since they were apparently refusing to believe what they had been told about the capsule. (It is also possible that they simply were not paying attention to the information being given them in the study). Certainly, the

issue of suggestibility in placebo studies has not been adequately addressed. Basically, the concern here is are the desired between-condition differences in attributions of arousal only imagined or do differences in arousal levels actually exist? The arousal-relevant side effects that are suggested to subjects in misattribution experiments obviously create demand characteristics that would make it impossible to ask subjects directly about their level of arousal. Therefore, if the issue can be addressed at all, it will have to be in a less direct manner.

Dienstbier (1984) discusses the issue of suggestibility briefly. It is his assertion that actual between-condition differences in arousal are unlikely due to the "low-key" manner in which the effects are presented to the subjects. According to Dienstbier, the presentation is "low-key" because subjects are told that it is "uncertain" whether they will actually experience any side effects. They are told only that the negative tension-related side effect could occur; therefore, the chances of a suggestibility effect are low.

While Dienstbier views the side effects manipulation as a relatively uninteresting part of the experiment for subjects, one can easily see the situation in a different light. That is, one can easily hold the opinion that subjects who have ingested a pill with possible negative side effects are not going to see it as a "low-key" event. Furthermore, once subjects begin to feel any tension at all, they may attribute at least some of that tension to the pill, and from this

point on they may truly believe that they are experiencing side effects. A concern for researchers utilizing this paradigm is the need to separate the arousal that subjects naturally experience due to their contemplation of moral transgression from that which they perceive as occurring due to a suggestibility effect.

A possible way of investigating this problem might involve asking subjects to take a pill, but without letting them know which side effects they should expect. This could be done by informing each subject that there are three different pills being used in the experiment, but it is not known which one they are receiving. Subjects could be informed of the side effects of all three (e.g. no effects, relaxation-related effects, and tension-related effects). The nature of the arousal experienced by subjects could then be followed throughout the experimental session by asking them to rate the probability of each pill being the one they received. This method would allow not only a comparison with the standard paradigm for a suggestibility effect, but would also allow for post hoc comparisons between the arousal patterns of cheaters and noncheaters. Of particular interest would be the levels of experienced arousal during the period immediately before, during, and immediately after the vocabulary test. Although this method of measurement cannot be equated with a physiological measure, it is certainly less obtrusive, and appears to be relatively free of demand characteristics.

Since the main dependent measure in this study was cheating, it is of some interest to compare the results of this study with other studies of cheating behavior. As the review presented in the introduction made clear, studies using cheating as the dependent measure are anything but new. From the early studies of Hartshorne and May (1928), Hartshorne, May and Maller (1929), and Hartshorne, May and Shuttleworth (1930), to the more recent study of Dienstbier and Munter (1971), the goal has always been to develop some degree of continuity between the cognitive and emotional processes related to morality and moral behavior.

It has been noted that the current study found relatively few differences between cheaters and noncheaters on a wide variety of variables including arousal-related symptoms, propensity to neutralize, self-esteem, and resentment. Only one difference emerged that was consistent with previous findings. Consistent with the findings of Dienstbier et al. (1975), increased cheating rates on the vocabulary test were related to higher levels of resentment directed toward those responsible for the test. That is, those who resented the vocabulary test the most were also the most likely to cheat on it. In light of the current study's difficulty in establishing more continuity, it is deemed worthwhile to reconsider the successes and failures that other researchers have had in their attempts to conduct cheating research. This may help identify ways to improve the current study and better predict who will engage in cheating behavior.

Burton (1976) presents a good review of the research which has used cheating as a dependent measure. Certainly, a common thread that runs through these studies and the current one is an underlying concern for identifying dishonest individuals and distinguishing them from honest ones. In other words, it is one goal of the research on morality to identify and quantify the situational and personal correlates of honest conduct.

Commonly cited correlates of cheating include age, intelligence, and sex. Of these only the latter can be examined through the current study. Most studies, such as one by Roskens and Dizney (1966) which found more self-reported cheating for male college students than for females, have supported the stereotypical view that males are less honest than females. However, the paradigm used in the current study has generally not supported such a notion. In the current study, no significant sex differences in cheating rates were found nor was any such difference reported by Dienstbier in his series of studies.

The key to explaining why some subjects cheated and some did not possibly lies in the understanding of variables that are more situationally-oriented. Such variables that have been previously studied in relation to cheating include risk, incentive, and fear of failure. Hartshorne and May (1928) have previously found that degree of risk is a factor directly relating to transgression in any cheating situation. Perhaps it would have been useful for predicting

cheating behavior in the current study if subjects had been required to answer some questions regarding their perceptions of the risks of their cheating being detected by the experimenter. Perhaps those who didn't cheat were significantly more aware of the possibility of their cheating being detected. Relevant to this idea is question #8, Appendix G, which asked subjects what they thought the study was observing, but only ten subjects responded with an answer related to cheating. Judging from this result, it is safe to say that the techniques for measuring cheating were well-concealed, and if subjects perceived cheating as involving any significant degree of risk, it is not apparent in the results of the study. In addition to assessing subjects' perceived risk relevant to this specific experimental situation, it might have been useful to incorporate some measure of the more general trait of risk-taking into the study.

The variable of incentive has been shown to be closely related to cheating by some researchers. For example, Vitro (1969) found that high importance placed on performance on a vocabulary test increased cheating behavior in sixth graders. Perhaps those who cheated in the current study simply saw their performance on the test as more important than those who didn't cheat. Questions which ask subjects how important it is to them to do well on the vocabulary (i.e. score at least a 20) and how important it is for them to appear intelligent to others might be useful for predicting cheating on the vocabulary test.

A variable related to incentive that might be a good one to include in future studies of cheating is fear of failure. Since subjects in the current study were told that a score below 20 on the vocabulary test was poor enough to warrant asking them to return for more tests and scrutinization regarding their verbal ability, it is safe to say that subjects would have seen their performance on the test as a failure. Furthermore, since the mean scores on the vocabulary test were only 12.50 and 13.62 for males and females, respectively, it is likely that subjects saw their performance on the test as a dismal failure. The subjects knew that their score would become known to other people; thus their motive to avoid failure may have been rather high in this experiment. (This is where the variable of incentive enters the picture.) Certainly, an attempt to assess subjects' fear of failure in both a situational and a trait manner would have been useful.

The possibility of a relationship between one's self-esteem and reactions to fear of failure has been investigated previously and it was hoped that the inclusion of Rosenberg's measure of self-esteem in this current study might touch upon the variable of fear of failure; however, the results did not show self-esteem to be a correlate of cheating behavior. This included measures of self-esteem taken before the vocabulary test, after the vocabulary test, and a pre-post difference score. This finding is in contrast to the ideas of Kohlberg (1976) who suggests a positive

relationship between honesty and self-esteem. Also, an experimental manipulation of self-esteem by Aronson and Mettee (1968) produced more cheating by those with lowered self-esteem. Nevertheless, a study which shows no relationship between self-esteem and honesty is not unusual in the literature, and at least one study, by Mussen et al. (1970), produced a positive relationship between cheating and self-esteem. Such inconsistencies serve to illustrate why psychology has such great difficulty in developing a unified theoretical approach to the issue of morality.

Conclusion

The original goal of this study was to test an alternative hypothesis to the misattribution of arousal explanation given for the results of an experiment by Dienstbier and Muntz (1971). This alternative hypothesis suggested that differences in cheating rates among conditions might be due to differential levels of resentment toward the experimenter for being asked to ingest a capsule which would create either tension-related side effects, relaxation-related side effects, or no side effects at all.

Differential levels of resentment toward the capsule were found, but they did not create differential rates of cheating. Since the misattribution of arousal effects was not replicated, nothing was settled in terms of these two competing hypotheses. However, the results did suggest that resentment may play an integral role in a subject's decision

to cheat. Unfortunately, it remains unclear what the underlying reasons for this are.

Future research should focus on this relationship between resentment and cheating. The main goal of this research should be to investigate the roles of attentional mechanisms, cognitive labeling of arousal, and moral reasoning in the resentment-cheating relationship. These three processes (or any subset thereof) may be operating independently of one another, or in an interactive fashion. Identifying the nature of their influence on the relationship between resentment and cheating could serve as a significant advancement in the understanding of the cognitive and emotional processes of morality.

APPENDIX A
INFORMED CONSENT FORM

EXPERIMENT 86-155

Informed Consent Form

I fully understand the procedures of, and agree to participate in this study. I understand that I will be given a pill containing a new drug, and that I will be given a newly developed vocabulary test. I understand that the drug I am to take is guaranteed to be totally safe. As in any study, I understand that if I suffer any adverse effects I have certain rights under the law. Specifically, I understand that if I am injured during this study, and if the investigator is at fault, the University of Florida and the Board of Regents of the State of Florida shall be liable only as provided by law. I understand that I may seek appropriate compensation for injury by contacting the Insurance Coordinator at 107 Tigert Hall, University of Florida, phone 392-1325. Furthermore, I understand that the effects of the drug will certainly last no longer than the experimental session (less than one hour).

I also understand that, although it is totally safe, the drug may have certain side effects which I will be informed of. Again, the effects will last less than one hour.

I understand that I may at any time ask questions about any procedures that I do not understand, and that I may at any time withdraw from the experiment and still receive one experimental credit for participation.

I have read and I understand the procedure described above. I agree to participate in the procedure and I have received a copy of this description.

_____ Subject	_____ Date	_____ Witness
_____ Relationship (if not subject)	_____ Date	_____ Principal Investigator

APPENDIX B
SIDE EFFECTS INFORMATION FORM

Welcome to experiment 86-155, sponsored by the Program in Medical Psychology, a joint research program between the Medical Center and the Department of Psychology. You are here today to help yourself by earning a required experimental credit and to help us by reporting the side effects you experience from a new vitamin supplement. You have already signed a form indicating your willingness to participate so we may now begin the study.

The capsules being used in this study have been specially formulated by the Pharmacy at Shands Hospital to act in a time-release pattern which will render it inoperative no more than 40 minutes after ingestion. There are three types of capsules being used and each is color-coded (green, blue or orange). Subjects are randomly assigned to receive a certain color capsule, and you should be aware of the type of capsule you are receiving.

Depending on your capsule's color, there may be certain side effects associated with the vitamin formula in the capsule. Some subjects will receive a capsule which is only a placebo (i.e. contains only gelatin and sucrose). Others will receive a capsule which creates certain side effects related to feeling tense. Finally one-third of the subjects will receive a capsule which creates side effects associated with feelings of relaxation.

These side effects are a major focus of the study since they have been reported regularly by subjects in their thirties and forties. It is seen as important to examine them with a younger age group which will likely be the target market for the products which contain the vitamin formula chosen for marketing. For your information the color codes are listed below with the corresponding side effects which are temporary and not harmful.

Color of Capsule	Expected Side Effects
ORANGE	GENERALLY TENSE FEELINGS A POUNDING HEART HAND TREMOR SWEATY PALMS A WARM OR FLUSHED FACE A TIGHT OR SINKING FEELING IN STOMACH
BLUE	GENERALLY RELAXED FEELINGS AN INCREASED TENDENCY TO YAWN A LESSENING OF EYE BLINK RATE
GREEN	INACTIVE DRUG (PLACEBO) NO SIDE EFFECTS EXPECTED

APPENDIX B
(continued)

Please draw a circle around the group of side effects above that represents the ones you should expect from your capsule.

You should now ingest your capsule with some water provided by the experimenter. There will be about a 15-minute delay before any side effects will be felt. While waiting for these effects to begin, a vocabulary test which is the dissertation project of a graduate student will be given to you. Please do your best as any unrepresentative data on this test could seriously damage the graduate student's work on this test. Thank you.

APPENDIX C
SIDE EFFECTS RATING LIST

What is your subject number? _____

What color was your capsule? _____

A major focus of this study is the side effects created by the capsule you just ingested. In a few minutes you will be asked how you feel in reference to the various side effects listed. Please study the list at this time so you can monitor yourself for any effects you experience; however, do not complete the ratings until you are instructed to do so.

SIDE EFFECTS RATING LIST--Study, but do not complete until you are instructed to do so.

Please rate the extent to which you have experienced the following effects from the capsule. Use the scale below by placing the appropriate number in the space beside each side effect.

3=Strongly Felt
2=Moderately Felt
1=Slightly Felt
0=Not at all Felt

Feelings of tension _____

A pounding heart _____

Hand tremor _____

Sweaty palms _____

A warm or flushed face _____

A tight or sinking feeling in the stomach _____

Feelings of relaxation _____

An increased tendency to yawn _____

A lessening of eye blink rate _____

APPENDIX D
VOCABULARY TEST

There is approximately a 15-minute delay from the time of ingestion before any side effects from the capsule become noticeable. While waiting we are asking you to take the following vocabulary test.

The reason we are asking you to take this test is because it is a newly developed test which is still in the process of being standardized. The developer of this test is experimenter A who is the same person who gave you the pill you just took. Please be careful to provide Experimenter A with a sincere effort on this vocabulary test. The results will be important since the test will likely become part of a larger standardized test for college students. At this time the focus of the developer of the test is those students who perform poorly on it. The test has 30 items and any students who miss more than 10 items will be the focus of a special followup investigation. Thus, if you do score less than 20 you will be asked to make a return visit to take some more tests and answer questions about your verbal ability. For this purpose you must provide your subject number and phone number below. The followup visit will be required only of those who score less than 20. If it is required for you, please keep in mind it is an obligation which must be fulfilled.

Your subject number _____ Your phone number _____

The Vocabulary Test now begins. Please indicate your answers on the answer sheet provided in this test booklet. Turn the page to begin. You have 15 minutes.

SCHOLASTIC PREDICTION FORM A

APPENDIX D
(continued)
SCHOLASTIC PREDICTION FORM A

1. He had the TEMERITY ((1) rashness, (2) cleverness, (3) timidity) of a young man.
2. The medicine was a liquid found to have a DELETERIDUS ((1) harmful, (2) sensual, (3) beneficial) effect.
3. Executives in some corporations have been found to be EFFETE ((1) worn out, (2) ineffective, (3) efficient).
4. The decision made by the group had BALEFUL ((1) depressing, (2) long-range, (3) calamitous) consequences.
5. Meeting his wife at the convention seemed an DPPORTUNE ((1) fortunate, (2) surprising, (3) timely) coincidence.
6. Since the announcement, he has become a PARIAM ((1) spokesman, (2) teacher, (3) outcast).
7. Harry is known for his INGENUDUS ((1) unsophisticated, (2) clever, (3) candid) approach to problems.
8. She was upset with her son's DILATORY ((1) procrastinating, (2) delinquent, (3) unconcerned) behavior.
9. Barney knew his boss was going to inform him of an IMMINENT ((1) impending, (2) rapid, (3) important) development.
10. The lake was LIMPID ((1) clear, (2) cool, (3) muddy).
11. Calling him a sanitation engineer is sheer HYPERBOLIC ((1) exaggeration, (2) politeness, (3) euphemism).
12. He has a tendency to AGGRANDIZE ((1) deprecate, (2) magnify, (3) discuss) his achievements.
13. There was a DEARTH ((1) plethora, (2) variety, (3) paucity) of supplies.
14. America is a PDLYGLDT ((1) many-faceted, (2) many-tongued, (3) populous) nation.
15. He PDSTULATED ((1) assumed, (2) stated, (3) predicted) the idea would work.
16. Jim was behaving in a DECOROUS ((1) seemly, (2) pretentious, (3) suspicious) manner.
17. He was a HARBINGER ((1) nonconformist, (2) forerunner, (3) enemy).
18. The attack was seen as an INVIDIOUS ((1) evil, (2) envious, (3) sneaky) act.
19. The crime was seen to be a PECCADILLO ((1) unlucky break, (2) frame-up, (3) petty offense).
20. He found Shakespeare to be ABSTRUSE ((1) dull, (2) obscure, (3) irrelevant).
21. Doris had always had a secret CUPIDITY ((1) inordinate desire, (2) weakness, (3) fondness) for eating.
22. She became LIVID ((1) flushed, (2) ashen, (3) violent) when told of her mistake.
23. His FULSOME ((1) disgusting, (2) lavish, (3) mellifluous) manner of speaking surprised everyone.
24. The worried survivors waited ANXIOUSLY ((1) eagerly, (2) uneasily, (3) carefully).

APPENDIX D
(continued)

25. His speech IMPLIED ((1) hinted, (2) inferred, (3) predicted that) he would not return home.
26. Both men enjoyed the FORTUITOUS ((1) lucky, (2) accidental, (3) beneficial) encounter.
27. Loud noises ENERVATE ((1) stimulate, (2) weaken, (3) frighten) some hospital patients.
28. She is vain about her LUXURIANT ((1) abundant, (2) silky, (3) shiny) hair.
29. He spends hours PERUSING ((1) casually reading, (2) carefully reading, (3) memorizing) the articles.
30. Co-workers discussed his MASTERFUL ((1) domineering, (2) skillful, (3) perfect) manner.

APPENDIX E
ROSENBERG SELF-ESTEEM SCALE

Please answer the following questions by marking your response in the spaces provided below. For each of the items, indicate how much you agree or disagree with each statement by using the following scale. Answer each and every item; do not skip any.

- 1=STRONGLY AGREE
- 2=AGREE
- 3=NEITHER AGREE NOR DISAGREE
- 4=DISAGREE
- 5=STRONGLY DISAGREE

1. I feel that I am a person of worth on at least an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward people.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

APPENDIX F PRDPENSITY TO NEUTRALIZE MEASURE

A rapidly expanding area of social psychology research involves studying how jurors arrive at decisions in criminal court cases. This questionnaire asks your opinion of several acts which might result in a defendant being tried. Beside each brief description are two blank spaces. Using the following two scales, please indicate your feelings concerning how morally right or wrong you think the act is and the degree of punishment you think it deserves. Simply write the number which corresponds to your opinion in the blank spaces. Use the first blank for scale W/R (how wrong or right is it?). Use the second blank to indicate the punishment you would recommend (scale P).

Scale W/R: How morally wrong or right do you feel the behavior is?

1	2	3	4	5	6	7	8	9
very				neutral				very
right								wrong

Scale P: Considering the range of punishments available for this act, which number below would best represent the punishment you would recommend?

1	2	3	4	5	6	7	8	9
minimum				midpoint				maximum
punishment								punishment
allowable								allowable

1. A defendant is convicted of assault. Defendant had no rationale for the act. W/R _____ P _____
2. A defendant is convicted of assault. Defendant's rationale for the act is based on unfair treatment he had received from the victim. "They had it coming." W/R _____ P _____
3. A defendant is convicted of assault. Defendant's rationale for the act is based on the fact that he was under a lot of stress and otherwise would not have done it. W/R _____ P _____
4. A defendant is convicted of burglary. Defendant had no rationale for the act. W/R _____ P _____
5. A defendant is convicted of burglary. Defendant's rationale for the act is based on unfair treatment he had received from the victim. "They had it coming." W/R _____ P _____

APPENDIX F
(continued)

6. A defendant is convicted of burglary. Defendant's rationale for the act is based on the fact that he was under a lot of stress and otherwise would not have done it. W/R _____ P _____
7. A defendant is convicted of arson. Defendant had no rationale for the act. W/R _____ P _____
8. A defendant is convicted of arson. Defendant's rationale for the act is based on unfair treatment he had received from the victim. "They had it coming." W/R _____ P _____
9. A defendant is convicted of arson. Defendant's rationale for the act is based on the fact that he was under a lot of stress and otherwise wouldn't have done it. W/R _____ P _____

APPENDIX G
POST-EXPERIMENT QUESTIONNAIRE

Post-Experiment Evaluation Form--Department of Psychology

The Department of Psychology requires all experiments and experimenters to be evaluated by the participating subjects. Please provide this information which will remain anonymous. It is requested that you provide your subject number only as a record of your participation. This information provides valuable feedback to the department about the experience of subjects who participate in experiments.

Evaluation--Experiment 86-155 Your subject number _____

Circle your responses for #1-#7.

1. How enjoyable was the experiment?

1	2	3	4	5	6	7	8	9
Not at all				Moderately				Extremely

2. How interesting was the experiment?

1	2	3	4	5	6	7	8	9
Not at all				Moderately				Extremely

3. How would you rate Experimenter A (the one who gave you the pill) in terms of performance?

1	2	3	4	5	6	7	8	9
Very Bad		Pretty Bad		Neutral		Pretty Good		Very Good

4. What effects did you expect from the capsule you took?

Tension		Relaxation		No effects
---------	--	------------	--	------------

5. To what degree did you resent the experimenter making you take the capsule?

1	2	3	4	5	6	7	8	9
No				Moderate				Extreme
Resentment				Resentment				Resentment

6. To what degree did you feel the effects that the capsule was supposed to produce?

1	2	3	4	5	6	7	8	9
Not at all				Somewhat				Extremely

APPENDIX G
(continued)

7. To what degree did you resent the vocabulary test?

1	2	3	4	5	6	7	8	9
No				Moderate				Extreme
Resentment				Resentment				Resentment

8. The person who gave you the capsule and the person who gave you the vocabulary test were:

the same person two different persons

9. What do you think this study was investigating?

APPENDIX H
DEBRIEFING FORM

First, we'd like you to know there is more to this study than you study. We'd like to tell you why we could not inform you accurately at the beginning. In some kinds of studies, if we tell people what the purpose of the experiment is and what we predict about how they will react under certain conditions then they might deliberately do whatever it is they think we want. If that happened, their reactions would not be a good indicator of how they might react in a situation in everyday life. It is also possible that the opposite might occur and that people might think that if we predicted they would do a certain thing, they might deliberately not do that to show us that we can't figure them out. So, we hope you see why in some studies we can't tell people all about the purpose of the study at the beginning. If we did, it might influence the results and make the data invalid.

What we are looking at in this study is how people interpret physiological arousal in relation to their cognitive reasoning. The drug study we said we are conducting is not really being conducted. More importantly, you will no longer have any effects from the capsule you ingested. Keep this in mind if you start feeling strange or sick later in the day; don't think, "Oh, it's that drug they gave me in that study." Get it checked, it could be something real. Also, don't change the way you think about yourself due to anything you did here today. We have spent a lot of time designing this study so that people would behave in a certain way, or at least perceive the situation in a certain way.

I would like to emphasize that this experiment is not a test of your personality or ability or your character. Also, we are not interested in the responses of any one individual (which remain anonymous). In fact, it would be impossible for us to draw any conclusions from the responses of a single person. What we have to do is get a good indication of how the processes under investigation operate.

What this means is that it is going to be necessary for us to ask you not to say anything about the study to anyone else. If you talked to someone else about the study and told them all the things that I just told you and then they were in the study, that would be the same as if I told them at the beginning, and all the time that everybody had put into the study would just be wasted. So do you see why it is important for you to not talk about the study?

We hope you got some educational value out of being in the study. THE MAIN POINTS TO REMEMBER ARE THAT THE CAPSULE YOU INGESTED IS NOW INOPERATIVE, AND THAT YOU SHOULD NOT DISCUSS THE EXPERIMENT WITH OTHER STUDENTS. If anyone asks you about the study, just say that it was a study of mental processes and that you were asked not to talk about it. Please sign

below to verify that you have read this debriefing form, then the experimenter will sign your credit slip. Thanks for helping us out, and if you have further questions, please call Brian at 376-2758.

I have fully read and understand the contents of this page.

Name

Subject Number

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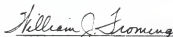
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BIOGRAPHICAL SKETCH


Brian A. Reaves was born in Springfield, Missouri, on January 31, 1957. He received a Bachelor of Arts degree in psychology from the University of Missouri-Columbia in 1979. His illustrious graduate career began with a year at the University of Maryland-College Park and now ends with the Doctor of Philosophy degree in social psychology from the University of Florida. Along the way, Reaves taught courses in personality theory and social psychology at Florida, and he worked as a research analyst intern with the Federal Bureau of Prisons in Washington, D.C.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



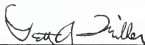
William J. Froming, Chairman
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Robert C. Ziller
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1987

Dean, Graduate School

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